
Response to Intervention: A Systematic Process to Increase Learning Outcomes for All Students

Guidance Document for New Mexico Schools



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Overview

Response to Intervention (Rtl) is the practice of providing high-quality instruction and interventions to meet student's needs and monitor progress in order to ensure effectiveness of instruction and/or interventions. Rtl is an integrated service delivery approach for all students and should be applied to decisions in general, remedial, and special educationⁱ. Rtl is the process that all student assistance teams (SATs) in New Mexico must follow to ensure that schools meet all students' needs.

Response to intervention (Rtl) has three fundamental premises:

- (1) it is a logical structure for allocating precious instructional resources efficiently and targeting them specifically to student needs - all student needs;
- (2) it is a commitment to use the best findings from our current and emerging knowledge base (scientific research) as we go about our instruction; and

(3) it is a commitment to use a logical, decision-making framework to guide our instruction (this has been variously referred to as data-based decision making or the problem-solving method).ⁱⁱⁱ

Purpose: The *Response to Intervention: A Systematic Process to Increase Learning Outcomes for All Students* manual provides guidance and tools for school districts and charter schools to use in order to build technically sound systems to effectively implement Rtl. In New Mexico, all districts, RECs, and charter schools will use the data gathered from the Rtl process primarily to evaluate the effectiveness of instruction and intervention; in addition Rtl will provide necessary information and data to guide the possible eligibility determination process for special education services. Response to intervention is the process that all SATs follow before consideration of referral to another program or service is warranted or justified.

Key Components of New Mexico's Rtl Model

New Mexico's Rtl process has the capacity to improve outcomes and provide support for all students, including students who are struggling academically and/or behaviorally for a variety of reasons. In this prevention approach, it is maintained that approximately 80% of students will benefit from the implementation of research-based core curricula that are delivered with a high degree of fidelity (this level is referred to as "Tier I"). An estimated 15% of students will need additional intervention support beyond the core curricula (typically referred to as "Tier II"). Finally, about 5% of students who do not respond to Tier I and Tier II efforts may require more intensive, individualized support (i.e., "Tier III" support).

Schools need to ensure that they have programs and structures in place at each tier in order to meet the needs of all students. Having these structures in place provides the critical foundation for Rtl.

Key components of the New Mexico Rtl model include:

1. A solid three-tier model for all content areas, including universal screening,
2. Evidenced-based curricula and methodologies are used in general education, special education, and supplemental progress,
3. Ongoing assessment and progress monitoring of student's skills and progress,
4. Systematic decisions rules to move from Tier I to Tier II and Tier II to Tier III, or reverse course.

Classroom/District Level Systemsⁱⁱⁱ

RtI requires respectful collaboration between general and special education personnel. General education teachers need to understand RtI and why all students need to have ongoing assessment. Special education teachers must understand the limits of traditional assessment systems. Both general and special education teachers must use evidence-based curricula and methodologies with fidelity in their classrooms, conduct regular progress monitoring, and use the data to make educational decisions. Teaming of general and special education is an essential component of an effective RtI system.

Within a RtI framework, reading is set apart as especially important as an instructional priority. Other academic areas are substantiated with less research, but curricula and instruction may be validated by using these guidelines:

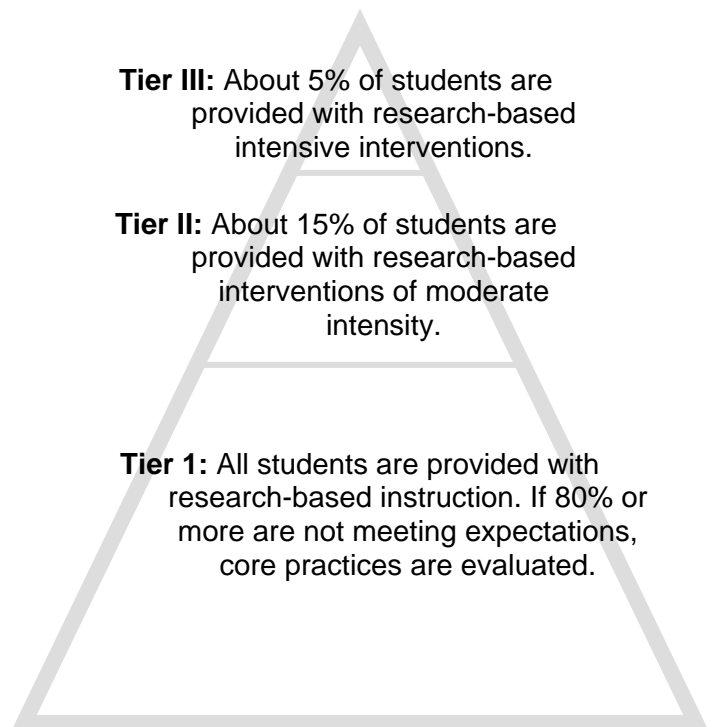
1. The curriculum and instructional strategies that are being used have been analyzed with the *Scientific, Research-based Instruction and Intervention Checklist* (see Appendix D) and are aligned with New Mexico Content Standards and Benchmarks.
2. Instruction is intense, regular, and differentiated to meet the skill needs of individual students.
3. At least 80% of students should meet expectations, such as grade level benchmarks, before referral to any other program can be justified. If classes do not meet this expectation, data-based curricular and instructional changes must be implemented. As a necessary caution, SATs must be mindful of Child Find requirements when making referral decisions using this decision rule on an individualized basis.

It is particularly important to examine the 80% criterion. This expectation is a **classroom and district level decision rule**

for teams to use in the analysis of their core curricula, instructional practices, and/or professional development needs. Districts and charter schools should adjust that expectation to a higher level if the general achievement in the school is typically higher than 80%. In some schools, the expectation is more appropriately 85% or even 90%. Performance in each classroom is expected to be close to the school average.

While the criteria may be adjusted upward, it should not be adjusted downward. It should be assumed that, if 80% of students in a district, school, or classroom are not meeting expected benchmarks, the problem is with either the content of the core curriculum or the intensity and frequency of instruction.

Figure 1: Conceptual Depiction of the 80% Rule Applied, With Increasingly Intense Interventions



Source: Tigard/Tualatin School District, Oregon

The systematic implementation of RtI requires a standardized protocol. The steps in this protocol should be an integral system within a school.

Step 1: Systems and Methodologies

To ensure that all students are making adequate progress, systems and methodologies must be in place at each tier. In setting up these systems, school-based teams must answer critical questions such as:

1. Data-based Goals: Using New Mexico Content Standards and Benchmarks, what specific goals do we have for our students in each content or targeted area? What are their personal goals?
2. Instruction: Are we implementing instruction, curricula, and methodologies based on scientifically based research?
3. Core Instruction: What are the critical instructional components that need to be in place to reach our goals?
4. Differentiated Instruction and Targeted Interventions: What do we have in place at Tier I, II, and III to meet each student's needs?
5. Assessment: Based on New Mexico Standards-Based Assessments, short cycle assessments, and progress monitoring data, how are we doing? What is our current level of performance as a school? As a grade? As a class? As an individual student?

See page 11 for critical components that need to be established at Tier I, II, and III.

The Instructional Map (see Table 1) is a tool to be used by stakeholders to document specific aspects of their instructional programs in order to ensure systems are in place at each tier, as well as align programs across grade levels. Using the Instructional Map, school-based teams, discuss and document program aspects such as: specific skills to be taught, curriculum to be used, number of instructional minutes per day, grouping size, and assessment/progress monitoring for each content area, as well as behavioral systems. To the greatest extent possible, each of these areas should be research-based and implemented with fidelity.

Fidelity refers to the intensity and accuracy with which instruction and intervention are implemented. Implementing instruction with high fidelity means that the teacher is following the implementation protocol established by the relevant research design. Publishers provide teacher guides that establish this protocol and provide professional development with regard to appropriate implementation of the protocol. It is then the responsibility of the teacher and administrator to ensure that the curriculum is implemented with a high degree of fidelity in the classroom in a sustained manner. Otherwise, the program may not have the desired effect or may have an effect that is less than optimal.

Districts and charter schools must be careful to address fidelity as they look at instructional programs in order to make effective decisions. Oftentimes in educational contexts, an instructional program is discontinued simply because it has not been implemented appropriately. We must ensure more efficient and fiscally responsible practices by making efforts to evolve with existing programs, provided that they are scientific and research-based, instead of conducting revolutionary changes by replacing programs that “don’t work” because they are not used correctly. Fidelity can only be achieved if teachers are provided with appropriate training and building principals monitor the implementation of school and district-wide curricula as instructional leaders using the resources provided in this guidance document, summarized below.

The NMPED has developed draft self-assessment tools (see *Appendix C*) for district, school, and teacher use to address the issue of documenting the fidelity of the use of research-based materials, as well as the use of scientific research-based practices and progress monitoring. District- and school-based teams, as well as individual teachers should complete the self assessments quarterly.

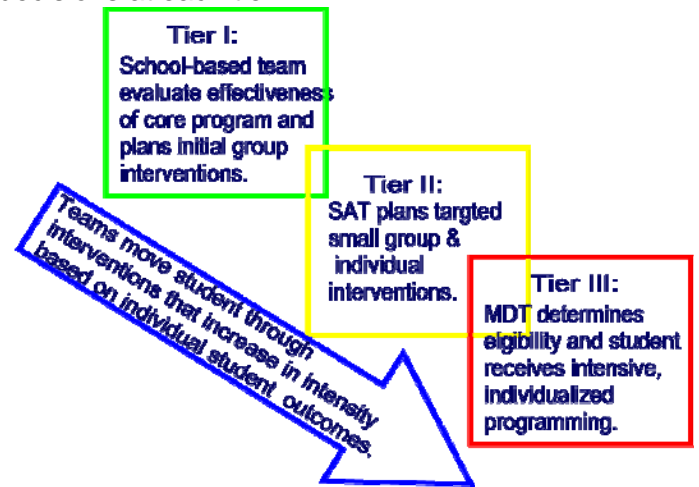
Table 1: TIER 1, 2, and 3 Instructional Map**District:** _____ **School:** _____**Grade:** _____ **Date of Completion:** _____**Area:** ☐ Reading ☐ Math ☐ Written Lang. ☐ Oral Exp. ☐ Listen. Comp. ☐ Behav.
☐ Exceptional Achievement ☐ Other: _____

Tier	Specific Skills	Curriculum/ Program	Minutes/ Day	Instructor	Grouping	Assessment (Include frequency)
Tier I: Core Meeting Grade-level Expectations						
Tier II: Strategic Some Risk						
Tier III: Intensive Most At-risk						

Adapted with permission: Simmons, D., Harn, B., & Paine, P. (2003)^{iv}

Teaming is an essential component of an effective RtI process. RtI requires communication and cooperation among regular education, special education, and supplemental programs such as Title 1. Schools may find that more than one team best meets their needs. For example, initial data analysis and planning may be best accomplished through grade-level professional learning communities. At this level, a group of teachers may find that fewer than 80% of their students are meeting expectations and decide to investigate ways to strengthen their curricula or instruction. If the core program is meeting the needs of 80% or more of the students, the teachers may decide to differentiate instruction for those students performing below expectancies. Another level of team (typically the Student Assistance Team) might meet to plan interventions for students who are not

making expected progress. On-going data gathering and analysis occurs at group and individual level. Decision rules drive decisions at each tier.



Step 2: Screening

Teachers need to know when a student is at-risk of failure in core subject areas or is not making significant gains to meet New Mexico Content Standards and Benchmarks. This requires that valid data are collected and analyzed on a regular schedule to determine students that need strategic or intensive interventions. Data that may be used to inform these decisions include short-cycle assessments, NM Standards-Based Assessments, and Curriculum Based Measures. It is essential that ongoing data are collected and reviewed for all students. Even though students are already identified as ELL, receive remedial services, or have an IEP, their achievement and progress is part of the system and must be continuously tracked.

Step 3: Instruction and Intervention

Students who are identified as needing strategic or intensive interventions need to receive systematic intervention and frequent progress monitoring. Interventions become increasingly intense as students fail to respond adequately and move from tier to tier, if needed, to make appropriate gains. Intensity is achieved by altering critical components such as changing group size, duration of lesson, and increasing attendance (see Table 2: Alterable Components) and/or changing the intensity of the intervention (see Table 3: Levels of Intensity Matrix).

Step 4: Progress Monitoring

Progress monitoring is the practice of collecting student data to determine whether the student is benefiting from instruction and building more effective programs for those who are not. Implementing systematic progress monitoring prevents inconsistencies in decision-making. Progress monitoring must include clear benchmarks for performance, be easy to administer, and be sensitive to small amounts of academic growth. Data that may be used to inform these decisions include short-cycle assessments and Curriculum Based Measures.

See Page 14 for specific guideline on progress monitoring decision-making.

Table 2: Framework of Alterable Components

The Framework of Alterable Variables is composed of five categories associated with student achievement. This framework provides a structure for understanding the multiple factors affecting student achievement, but limits the focus to those areas where changes can most readily be effected. Each component is composed of interrelated subvariables.

Opportunities to Learn

- Increase attendance
- Provide instruction daily
- Increase opportunities to respond
- Vary schedule of easy/hard tasks/skills
- Add another instructional period

Grouping for Instruction

- Check group placement
- Reduce group size
- Increase teacher-led instruction
- Provide individual instruction
- Change instructor

Program Efficacy

- Pre-teach components of core program
- Use extensions of the core program
- Supplement core with appropriate materials
- Replace current core program
- Implement specially designed program

Coordination of Instruction

- Clarify instructional priorities
- Establish concurrent reading periods
- Provide complementary reading instruction across periods
- Establish communication across instructors
- Meet frequently to examine progress

Program Implementation

- Model lesson delivery
- Monitor implementation frequently
- Provide coaching and ongoing support
- Provide additional staff development
- Vary Program/lesson schedule

Levels of Intervention Intensity Matrix

The Levels of Intensity Matrix (Table 3) can be used to describe the level of intensity of instruction, as well as guide discussions regarding how to address the intensity of instruction and intervention in the classroom. The NMPED has defined the term *intervention* as an increase in the intensity of instruction, as defined by this matrix. It is clear from this analysis that instructional changes, such as preferential seating, do not increase the intensity of instruction and therefore are not considered interventions.

Never stop doing what works.

Always look for the smallest change that produces the largest effect.

~ Rob Horner, 2004

Table 3: Levels of Intervention Intensity Matrix

Low Intensity  High Intensity

	Tier I: Regular Education		Tier II: Regular Education with Supplemental Services, if appropriate		Tier III: Special Education
	1	2	3	4	5
Program Emphasis	Use core program and explicitly teach priority skills	Use extensions of the core program	Supplement core with re-teaching or intervention components of core	Replace current core program with intervention program	Implement specially designed program (IEP)
Time (Opportunity to Learn)	Schedule and deliver 60-90 minutes of daily instruction (minimum of 30 minutes in small group)	Increase opportunities to respond during core instruction	Schedule core + supplemental period (90+30 or 60+30)	Schedule two intervention sessions daily (no less than 90 minutes total)	Implement specially designed program (IEP)
Grouping for Instruction	Check group placement and provide combination of whole and small-group instruction	Schedule small-group opportunity for specific practice	Reduce group size down to three students or less	Provide individualized instruction	Implement specially designed program (IEP)
Assessment	Student Work Samples (SWS) NM Standards-Based Assessments (NMSBA) Short-Cycle Assessments		SWS NMSBA Short-Cycle Assessments Curriculum-Based Measures (CBMs)		SWS NMSBA Short-Cycle Assessments CBMs Diagnostic Tests

Step 5: Tier 1, 2 & 3 Components and Decision Rules

We must use clearly defined **components** and **decision rules** in order to standardize the process that Student Assistance Teams must follow to ensure that unnecessary referrals for special education evaluation are avoided. As a school, educators must ensure that all components are firmly established. Then, school-based teams use the specified decision rules to make data-based decisions and move students from tier to tier. The following decision rules apply to the successful application of RtI as an instructional model in New Mexico:

Tier I Components

Component 1: Implement scientific, research-based general education instructional materials according to the publisher's teacher guide. Using the *Scientific, Research-based Instruction and Intervention Checklist* (see Appendix D), building administrator verifies that curricula and methodologies being used in the classroom are evidence based.

Component 2: Using *Classroom Fidelity Self Assessment Checklist* (see Appendix F), the building administrator verifies that instruction is delivered with fidelity.

Component 3: Building administrator verifies that specific instructional adjustments have been consistently implemented to meet student needs. (Refer to *Levels of Intensity Matrix - Levels 1 and 2*).

Component 4: Short-cycle assessment data for all students' performance in academic content areas are being collected at least three times during the school year. Data regarding behavior may also be systematically collected and analyzed. Use the *School and District Fidelity Self-Assessment Checklist* and *Instructional Map* to document assessment used at each Tier.

Component 5: Established Student Assistance Teams (SAT) provide the structure to document student-specific information. All schools must have an effective SAT process as part of Tier I and Tier II. Refer to NMPED Student Assistance Team Technical Assistance manual for specific guidelines (available at: <http://www.ped.state.nm.us/resources/downloads/sat.manual.html>).

Decision Rule: Tier I to Tier II?

Data are systematically analyzed to identify those students who score in the lowest 25 percent of their grade level peer group based on district short-cycle assessments. School leadership should consider referring these students to Tier II for additional support. Students may also be referred to Tier II by parent and/or teacher concern, particularly if the area of concern is behavior.

Tier II Components

Component 1: Provide evidence-based, small-group instruction to identified students for at least 4 weeks. This is intensity level three and four on the *Levels of Intensity Matrix*. Building administrator will verify that level of intensity has been implemented according to the student's needs, as identified by the SAT.

Component 2: The building administrator will verify that instruction is delivered with fidelity (according to the teacher's guide supplied by the publisher or the research protocol).

Component 3: Monitor student progress toward goal(s) weekly, using curriculum based measures, for at least 4 weeks. Graph data to provide for ease of comparison to grade level peers in the district.

Component 4: Review, revise, and/or discontinue small-group instruction based on student performance and progress after 4 weeks intervals.

Component 5: For students not yet demonstrating evidence of progress towards instructional goals, a decision is made to either change intervention or increase the intensity, duration, and/or frequency of instruction of current intervention and continue to monitor progress. This is intensity level two or three on the *Levels of Intensity Checklist*.

Component 6: Repeat Tier II steps 1-5, with varied small-group interventions, as needed, based on student progress monitoring.

Component 7: Complete SAT documentation process.

Decision Rule: Tier II to Tier III?

Based upon a systematic assessment of student, classroom, and district-wide progress monitoring data, SATs determine which students are not yet demonstrating evidence of meeting goals. SATs may consider initiating a comprehensive diagnostic evaluation to determine whether a student may have a disability and whether they are eligible for special education services. SAT may recommend a comprehensive diagnostic evaluation for those students whom the team suspects as having a disability or those students who demonstrate a dual discrepancy as defined by the Specific Learning Disability section of the *New Mexico Technical Evaluation and Assessment Manual*.

TIER III Components

Component 1: Gather documentation to compose a complete SAT file. A specific referral concern should be submitted to the district evaluation team.

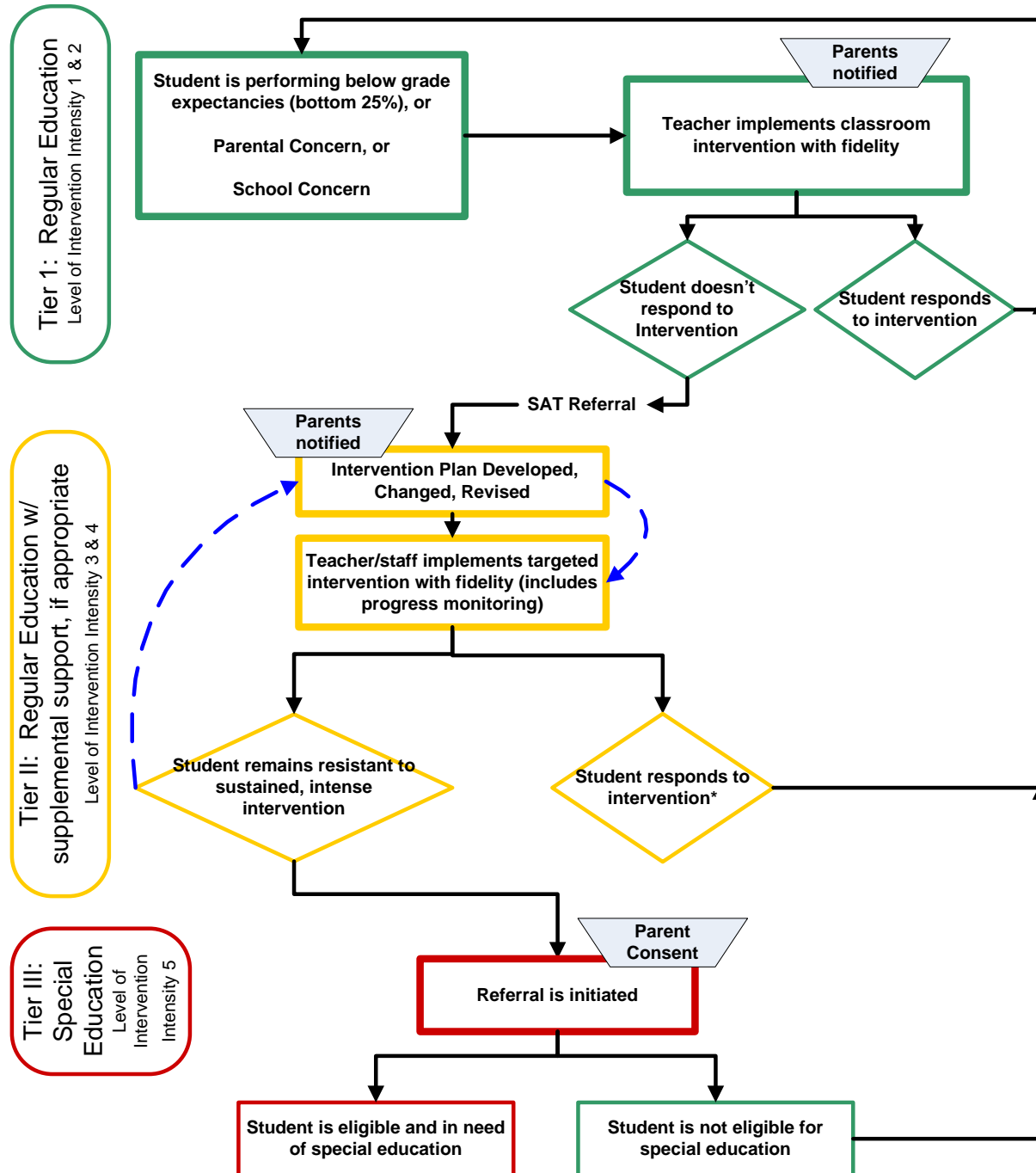
Component 2: Complete a comprehensive diagnostic evaluation. Complete assessments in all areas of suspected disability/exceptionality.

Component 3: The MDT determines whether a student has a disability and meets the criteria for special education services. If a student is not eligible, s/he is referred back to the SAT. If the student is eligible for special education, an IEP is developed and becomes the student's new instructional program. If a student is not found to have a disability, a referral back to SAT should be initiated to determine further intervention planning.

Decision Rule: Discontinuation of Special Education Services?

The IEP team must consider the expectations established in the NM TEAM regarding the discontinuation of special education services: Students with disabilities in general can be considered for discontinuation of services when they demonstrate the ability to function independently, access and perform adequately in the general curriculum, and no longer demonstrate a need for special education services. Any student whose special education services are discontinued should be referred by the IEP team to the SAT at his or her school to ensure that the student is duly supported in this important transition period.

New Mexico PED Example of RtI Process



*If student is responding to interventions, however, the targeted intervention is of such intensity that it cannot be maintained without supplemental support, the student may be referred for an evaluation.

Progress Monitoring Guidelinesⁱⁱⁱ

Progress monitoring is assessment of student academic performance on a regular basis in order to determine whether children are benefiting from instruction. It is requisite for leadership teams to build more effective programs for those who are not. Standard methods of progress monitoring prevent inconsistency in decision-making and eligibility decisions. Progress monitoring for these purposes must include clear benchmarks for performance and reliable, easy to administer measures such as short-cycle assessments. Short-cycle assessments are Tier 1 progress monitoring mechanisms in New Mexico. Decision rules have been established for school-based teams and/or Student Assistance Teams with regard to data analysis. At Tier 2, curriculum-based measures (CBM) provide data with regard to how well a student is responding to intervention. Tier 3 includes all of the progress monitoring mechanisms in use at Tiers 1 and 2, in addition to monitoring determined to be relevant to meet individual education program goals and objectives.

Progress monitoring involves the following steps (see Figure 3):

1. Establish consistent benchmarks for grade level student performance and plot them on a chart (e.g., “read orally at grade level 40 words per minute by June”). It must be plotted at the projected end of the instructional period, such as the end of the school year.
2. Establish the student’s current level of performance (e.g., “20 words per minute”).
3. Draw an aim line from the student’s current level to the performance benchmark. This is a picture of the

slope of progress required to meet the benchmark.

4. Monitor the student’s progress using short-cycle assessments at Tier One. Monitor the student’s progress using CBMs at Tier Two at least weekly. Plot the data.
5. Analyze the data on a regular basis, applying the NMPED’s Tier 1, 2, & 3 decision rules.
6. Draw a trend line to validate that the student’s progress is adequate to meet the goal over time.

Determining Trend Lines

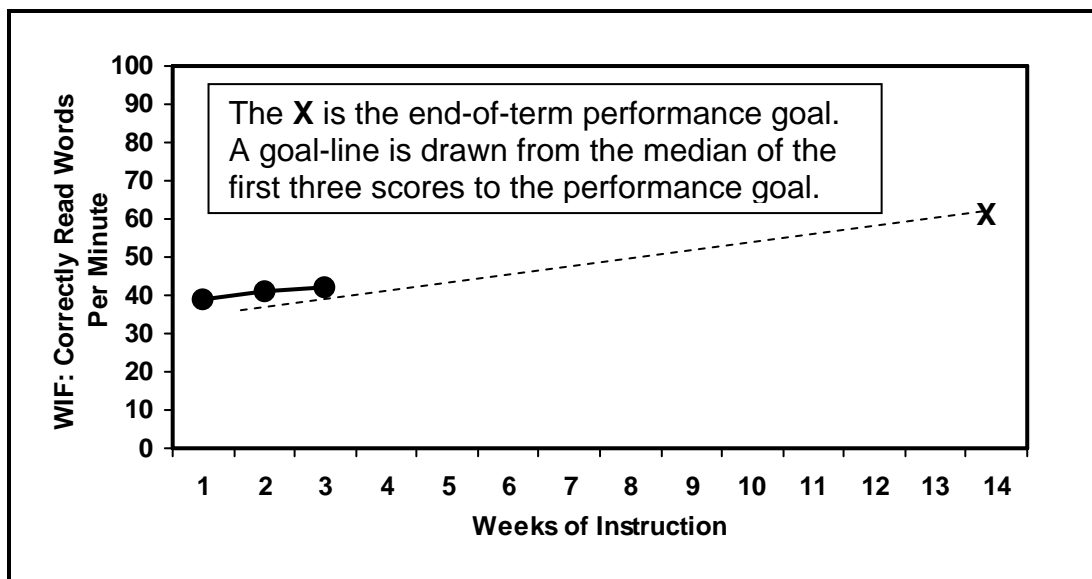
It is very important that data be analyzed sufficiently to determine whether changes in instruction are required for the student to meet the performance benchmark. This analysis is enhanced when data are graphed. Trend lines, graphic indications of a student’s overall slope of progress, are necessary to determine whether progress is sufficient to meet the goal. There are several technical approaches to determining trend lines, among which is the Tukey Method (illustrated in Figure 4).

Robust progress monitoring procedures such as graphing results and using trend lines are required in order to apply consistent decision rules.

An excellent resource for learning about progress monitoring and establishing goals may be found at the website for the National Center on Student Progress Monitoring, found at www.studentprogress.org.

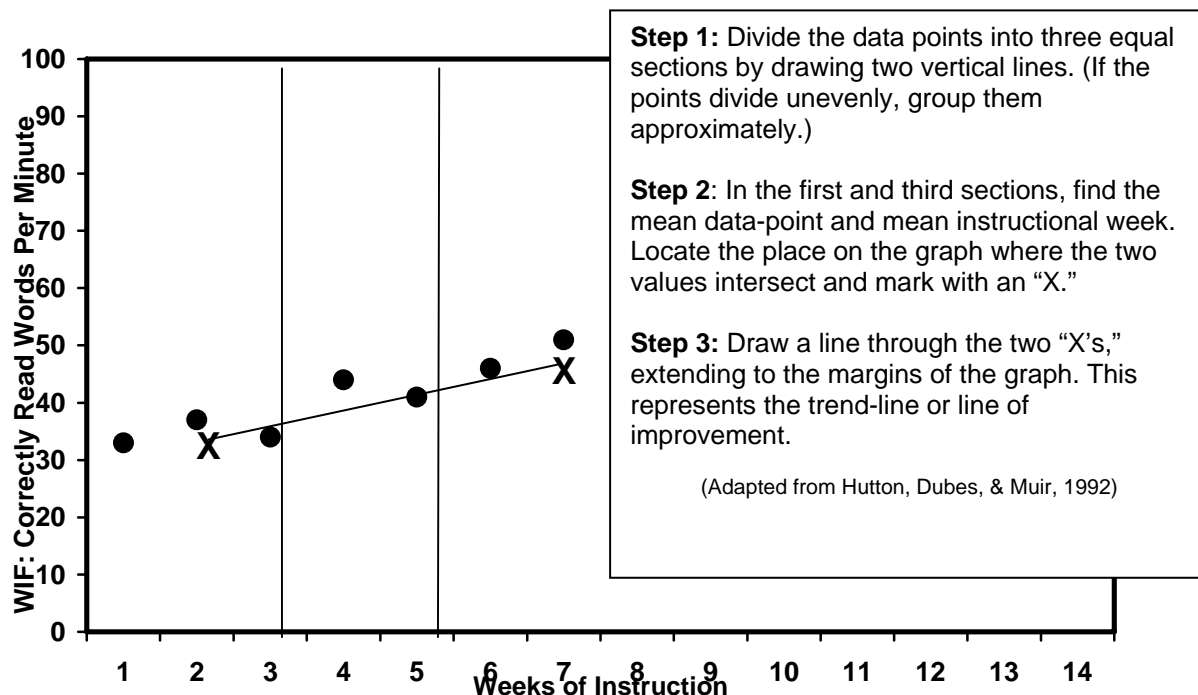
Progress monitoring data gathered from CBMs provides data to support the application of the dual discrepancy criterion, which is based upon analysis of short-cycle assessment data. The CBM data should demonstrate convergence with short-cycle assessment data and support a disability in the area of concern.

Figure 3: An Example Progress Monitoring Chart with Aim Line



Source: National Center on Student Progress Monitoring website:
www.studentprogress.org/library/training.asp

Figure 4: Developing a Trend Line Using an adaptation of the Tukey Method



Source: National Center on Student Progress Monitoring website:
www.studentprogress.org/library/training.asp

Frequently Asked Questions

What is meant by Response to Intervention (RtI)?

RtI is a process that provides immediate intervention to struggling students at the first indication of failure to learn. Through systematic screening of all students, classroom teachers identify those who are not mastering critical skills and provide differentiated intervention to small groups of students. Student's responses to these interventions allow teachers to adjust and differentiate instruction accordingly. In addition, it allows teachers to identify students in need of additional targeted intervention(s).

What is the Three-Tier model?

The Three-Tier instructional model is being used across New Mexico for initiatives such as Positive Behavior Support and Reading First. The model is designed to meet the needs of all students, including those who are slow starters in kindergarten and those who continue to struggle in upper grades.

The Three-Tier model is a prevention model intended to identify students before they fail and to provide the supports students need to learn essential academic and behavioral skills. Research demonstrates that waiting for students to “catch on” or “catch up” does not lead to higher student achievement. Students need explicit, targeted instruction and intervention to succeed.

What is the focus of Tier 1?

Tier 1 is designed to meet the needs of a majority of the school population and has three critical elements:

- a) a research-based core curriculum,
- b) short-cycle assessments for all students at least three times a year to determine their instructional needs, and
- c) sustained professional development to equip teachers with tools necessary for teaching content area effectively. In Tier 1, the goal is to prevent failure and optimize learning by offering the most effective instruction possible to the greatest number of students. Instruction takes place in a regular education setting and is, for the most part, whole class (scientifically-based) instruction that produces good results for most students. Based on data, classroom teachers monitor student progress and differentiate instruction for students who do not meet grade-level expectations.

What is the focus of Tier II?

Tier II is for students who are falling behind same-age peers and need additional, targeted interventions to meet grade-level expectations. In Tier II, the goal is to accelerate learning for students who need more intensive support. In Tier II, the interventions typically take place in a regular setting and may include instruction to small groups of students, targeted interventions, and frequent progress monitoring.

What is the focus of Tier III?

Tier III is designed for students who still have considerable difficulty in mastering necessary academic and/or behavioral skills, even after Tier I and Tier II instruction and interventions. Tier III addresses students' needs through intensive individualized services. In Tier III, students receive intensive and highly focused, intentional, research-based instruction, possibly over a long period of time. Tier III involves students who did not respond to Tier II intervention. These students undergo more a formal diagnostic evaluation.

What is progress monitoring? Progress monitoring refers to the systematic and continuous collection of intervention data. Progress monitoring is primarily for students who are receiving additional intervention instruction. The purpose of progress monitoring is to assist teachers in determining whether a child is making adequate progress as a result of targeted intervention instruction. That is, are they responding to the intervention?

How does this apply at secondary level?

The process of assessment, intervention, and progress monitoring is applicable at any age and in any subject area in New Mexico's public schools. Learning issues emerging for the first time for a student at the secondary level are more likely to be related to study skills, focus, motivation, etc., rather than difficulty in a specific skill area such as reading or math. The process can be used to address such concerns within general education.

For students who already have IEPs, the process should be used to ensure focus on the student's specific learning challenges, appropriate interventions, frequent assessment, and ongoing adaptation of instruction and interventions. The evidence gleaned provides a critical foundation for annual IEP and reevaluation meetings. The process is also well suited to providing appropriate interventions for students who are learning beyond the general curriculum, for example students who need additional challenge, higher-level thinking skills, etc. However, for making eligibility decisions for learning disabilities at the secondary level, IQ-Achievement discrepancy determination may be appropriate.

What about ELL students?^{iv}

Numerous authors have advocated for the use of alternative procedures to assess the skills and abilities children have acquired through either direct intervention or instruction (e.g., Shinn, 2002; Fuchs & Fuchs, 1997). Because of the difficulties inherent with the use of norm-referenced measures of academic achievement with students who are culturally and linguistically diverse, curriculum-based methods assessing student response to intervention have generated a great deal of interest. While these methods hold promise, numerous factors should be given consideration when evaluating the academic progress of students who are culturally and linguistically diverse via their response to intervention.

Students with limited English proficiency (LEP), for example, often display characteristics and behaviors that are similar but unrelated to disorders and disabilities requiring special education intervention. Students who are learning English as a second language may often be slow to begin and finish tasks and appear to be inattentive, impulsive, easily distracted, disruptive, and disorganized as a result of the time required to translate instruction and directions, the partial or incomplete understanding of instruction and directions, and the mental fatigue associated with language acquisition. Roseberry-McKibbin (2002) expands this list of issues related to second language acquisition to include language-based concerns such as interference, interlanguage, silent period, code switching, and language loss. She cautions that there are "normal processes of second language acquisition [that] . . . need to be recognized as normal behaviors for students who are not yet proficient in English" (p. 193). Without careful consideration and evaluation, students with limited English proficiency displaying these and other characteristics may be inappropriately identified as having a need for special education intervention.

A key consideration, therefore, when assessing response to intervention for students with limited English proficiency is their progress towards second language acquisition and language proficiency. Cummins (1984) proposed basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP) as two distinct types of language proficiency.

BICS is the development of conversational language skills and is thought to take two to three years to acquire. CALP is the academic language skills that are necessary to fully understand instructions and produce verbal and written work unencumbered by issues of language acquisition and proficiency. CALP is a more advanced level of language acquisition and is estimated to take five to seven years to develop (Cummins, 1984).

In order to address issues of language acquisition in the context of the assessment of academic achievement, Ochoa (2005) recommends that evaluators compare the educational trajectory of the student in question with his or her same grade-level LEP peers. If the educational trajectories are similar and are within the time frame of BIC and CALP development, length of native language instructional programming and issues of language acquisition might be considered critical factors in the student's performance. However, there may be cause for concern if the educational trajectory of an LEP student across time is notably different from his or her LEP classmates who have been educated in a similar instructional setting for approximately the same number of years.

Additional issues and concerns that should be carefully considered when using a response to intervention format are discussed by Rhodes (2005) and include:

- The extent to which the curricular content of the classroom or course is culturally representative of the student. Curricular additions and adjustments should be made as necessary.
- The student's previous or current participation in ESL and bilingual education programming and the outcome of program participation.
- Known or suspected sensory or communicative impairments.
- The amount, type, and location of formal elementary and secondary schooling.
- The student's mobility and attendance pattern and the potential impact on academic progress.
- The student's current level of acculturation in relation to the appropriateness of assessment items and procedures.
- The student's level of English language proficiency in comparison to the language of the intervention procedure.
- Skills other than the targeted skill required to complete tasks or assignments.
- Experiences outside of the school setting that support or detract from academic success.

For an expanded discussion of this topic please see Rhodes, Ochoa, and Ortiz (2005) "Assessing Culturally and Linguistically Diverse Students: A Practical Guide" by Guilford Publishing.

ⁱ National Association of State Directors of Special Education (2006)

ⁱⁱ *The Special EDge: Response to Intervention*, Winter/Spring (2006).

ⁱⁱⁱ Oregon Department of Education Response to Intervention Initiative Technical Assistance Paper *OrRti Guidance by Tigard SD*. (Or-RTI). Retrieved March 13, 2006, from <http://www.ode.state.or.us/initiatives/idea/rti.aspx>.

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Appendix A

Rationale for Change

Rationale for Change

Through decades of educational practice, it has become generally accepted that a “severe discrepancy” is *in fact* a learning disability, or at least a proxy for a learning disability and its underlying processing disorders. It is now acknowledged that there is not a clear scientific basis for the use of a measured IQ achievement discrepancy as either a defining characteristic of or a marker for SLD.

Though numerous authorities (Fletcher et al., 1998; Lyon et al., 2001; Stanovich, 2005) have identified problems with severe discrepancy models, it has persisted as the most widely-used diagnostic concept. In the 1997 reauthorization process, the concern with discrepancy approaches reached a head and the U.S. Office of Special Education Programs (OSEP) committed to a vigorous program of examining and summarizing evidence around SLD identification. That effort resulted in the Learning Disabilities Summit, as well as subsequent roundtable meetings involving representatives of major professional organizations. While preparing for the 2004 IDEA reauthorization, OSEP conducted the 2002 Learning Disabilities Roundtable to generate a series of consensus statements about the field of learning disabilities. With respect to the use of discrepancy formulas, the members stated:

Roundtable participants agree there is no evidence that ability-achievement discrepancy formulas can be applied in a consistent and educationally meaningful (i.e., reliable and valid) manner. They believe SLD eligibility should not be operationalized using ability-achievement discrepancy formulas (pg. 8).

Other points of consensus from the Roundtable include:

Identification should include a student-centered, comprehensive evaluation and problem-solving approach that ensures students who have a specific learning disability are efficiently identified (pg. 6).

Decisions on eligibility must be made through an interdisciplinary team, using informed clinical judgment, directed by relevant data, and based on student needs and strengths (pg. 29).

Response to intervention assessment requires changes in the ways resources are used and a very close relationship between general and special education. General educators need to understand the approach and why all of their students need to be closely monitored—especially in the development of early academic skills. Special educators must understand the limitations of traditional assessment systems and adopt highly prescriptive and systematic interventions. Most importantly, general and special educators need to work together to implement and maintain the system.

Issues with the Severe Discrepancy Model

Issue #1: Discrepancy models fail to differentiate between children who have SLD and those who have academic achievement problems related to poor instruction, lack of experience, or other confounding factors. It is generally agreed that the model of achievement-ability discrepancy that has been employed was influenced by research conducted by Rutter and Yule (1975) (Reschly, 2003). This research found two groups of low achieving readers, one with discrepancies and one without. It was this finding that formed the basis for the idea that a discrepancy was meaningful for both classification and treatment purposes. Later analyses of this research, and attempts to replicate it, have failed to produce support for the “two group”

model for either purpose. In fact, it is now accepted that reading occurs in a normal distribution and that students with dyslexia or severe reading problems represent the lower end of that distribution (Fletcher et al., 2002). For a thorough discussion of this important issue, see Fletcher et al., 1998.

Issue #2: The application of discrepancy models has been shown to discriminate against certain groups of students: students outside of “mainstream” culture and students who are in the upper and lower ranges of IQ. Due to psychometric problems, discrepancy approaches tend to under-identify children at the lower end of the IQ range and over-identify children at the upper end. This problem has been addressed by various formulas that correct for the regression to the mean that occurs when two correlated measures are used. However, using regression formulas does not address issues such as potential language and cultural bias in IQ tests, nor does it improve the classification function of a discrepancy model (Stuebing et al., 2002).

Issue #3: Discrepancy models do not effectively predict which students will benefit from or respond differentially to instruction. The research around this issue has examined both progress and absolute outcomes for children with and without discrepancy, and has not supported the notion the two groups will respond differentially to instruction (Stanovich, 2005). Poor readers with discrepancies and poor readers without discrepancies perform similarly on skills considered to be important to the development of reading skills (Gresham, 2002).

Issue #4: The use of discrepancy models requires children to fail for a substantial period of time—usually years—before they are far enough behind to exhibit a discrepancy. In order for children to exhibit a discrepancy, two tests need to be administered—an IQ test, such as the Wechsler Intelligence Scale for Children, and an achievement test, such as a Woodcock Johnson Tests of Achievement. Because of limitations of achievement and IQ testing, discrepancies often do not “appear” until late second, third, or even fourth grade. Educators and parents have experienced the frustration of knowing a child’s skills are not adequate and not typical of the child’s overall functioning, and being told to “wait a year” to re-refer the child. While waiting for a discrepancy to appear, other persistent problems associated with school failure develop such as compromised motivation, vocabulary deficits, and deficits associated with limited access to written content.

Considering all of the methodological problems associated with discrepancy formulas, this feature is the one that is most problematic for parents and practitioners—so problematic, that by the late 1990’s the discrepancy approach was referred to as the “wait and fail” approach by federal officials (Lyon, 2002).

Are there better ways to determine SLD eligibility? Generally, attempts to reliably define and measure psychological processing difficulties have yielded limited results. However, related to this research, certain skills have been identified as robust predictors of academic performance. These skills may be characterized as “critical indicators” or “marker variables.” When embracing this approach, one accepts that the indicator may represent both constitutional *and* learned skills, and that the variable represents an important capability. Using this approach, researchers have identified measures of phonological awareness and early literacy knowledge such as letter sound relationships as powerful early predictors of later reading performance. (Good and Kaminski, 2002) Similarly, fluent reading of connected text continues to be highly correlated with growth in both word reading and comprehension, and represents meaningful ways to screen and progress monitor in reading (Fuchs and Fuchs, 1998). Using this approach provides a method of screening to identify students with potentially persistent academic problems, and assessing them further.

Fortunately, these variables have been identified for the most prevalent of school identified specific learning disabilities, those in the area of reading. Similar measures for domains such as listening comprehension, math reasoning, math problem-solving, and written language have not been as thoroughly investigated.

Use of these indicators is a key practice that underlies the response to intervention (RtI) approach. Since they are valid measures of current performance and good predictors of later performance, they can be used to prevent the most serious of problems with severe discrepancy models—the problem of waiting for students to fail before they receive help. (above text adapted from Oregon Department of Education Response to Intervention Initiative)

In an effort to make decisions that are founded in current research, provide early intervention services, increase the capacity of general education to meet student needs, and limit the number of inappropriate referrals for special education services, the New Mexico Public Education Department is enacting a policy which requires the use of the dual discrepancy model, founded in the analysis of data generated by RtI processes, for SLD identification purposes in our public schools, grades pre-K through three. This model is established in the *NM TEAM*. Pending a July 1, 2007 adoption of a revised NMAC 6.31.2.10, all public schools in New Mexico will be required to use the dual discrepancy identification model for students in grades pre-K through three. Schools will continue to have the option of using either the severe discrepancy model or the dual discrepancy model for students in grades 4-12, though it is expected that the dual discrepancy model will be required at grades four through six in the coming years. Grade level is determined by the grade the student is in on the date of the MDT meeting and eligibility determination.

Appendix B

Relevant Statutes and Regulations

Relevant Statutes and Regulations

IDEA 2004 requires careful attention to how special education evaluations are conducted. The statute places emphasis on linking student assessment to student instruction through the use of RtI. It is important to remember that RtI, as an instructional model, generates documentation that is required of all evaluations for special education services under every disability category. It is also important to remember that the dual discrepancy model is built specifically upon RtI-generated student achievement data and provides one component of evaluations for SLD evaluation purposes, but *only* one component. General evaluation requirements found in the IDEA are briefly summarized below:

A “full and individual initial evaluation” shall be conducted. . . “to determine whether the child is a child with a disability . . . and to determine the educational needs of the child (20 U.S.C. 1414 (a)(1)(A) and (C) (i) (I) and (II).) These requirements and those discussed below obligate teams to consider all aspects of a child’s functioning.

An initial evaluation must be conducted *“within 60 days of receiving parental consent for the evaluation.” (20 U.S.C. 1414 (a)(1)(C)) “The agency proposing to conduct an initial evaluation . . . shall obtain informed consent from the parent of such child before conducting the evaluation.” (20 U.S.C. 1414 (a)(1)(D).* These requirements mean that the process for RtI must be carefully tracked. It must be clear to teams that there is a specific point at which the response to intervention process becomes a part of a special education evaluation. Parental consent must be obtained at that point, and the parent must understand that the procedure being implemented will contribute to a decision about whether the student has a learning disability and is eligible for special education.

The NMPED continues to maintain that parent rights are in effect upon referral for special education evaluation. This is consistent with existing NMPED policy and supports the understanding that the presence of a disability is the **least likely** and therefore **least common** explanation for student failure throughout the RtI process. Student assistance teams make no assumptions about a student’s disability status until the point that they collectively consider referral for a comprehensive special education evaluation.

Evaluation procedures must: ...“use a variety of assessment tools and strategies to gather relevant functional, developmental, and academic information, including information from the parent” and may “not use any single measure or assessment as the sole criterion.” The procedures must include the use of “technically sound instruments that assess the relative contribution of cognitive and behavioral factors.” (20 U.S.C. 1414 (b)(2)(A)(B) and (C). Further, (3)(A)(i-v) continue the requirements that nonbiased assessment procedures are used and that procedures are administered by qualified, trained, and knowledgeable personnel. (3)(B) reiterates that the child must be “assessed in all areas of suspected disability.” These requirements make it clear that a single form of assessment may not be used to either find children eligible or define all of their educational needs. Teams must continue to consider whether a student is most appropriately identified as a child with SLD as opposed to another disability, such as emotional disturbance. They must also design individual evaluations that are tailored to student’s presenting area(s) of concern.

Sections (3)(A)(i) and (ii) and (5)(C) require that assessments conducted *“are selected and administered so as not to be discriminatory on a racial or cultural basis” and are “provided and*

administered in the language and form most likely to yield accurate information on what the child knows and can do academically, developmentally and functionally”. . .and that a child may not determine a child is eligible for special education if the “determinant factor for such determination is. . .limited English proficiency.” The effects of second language acquisition and cultural variations must be considered for English language learners (ELLs) and interventions that are designed for those students must be appropriate. The procedures used in RtI should be aligned with recommended best practices for students who are ELL; it is recommended that trained Bilingual/ TESOL endorsed staff be involved in the design of interventions and interpretation of ELL students’ responses to those interventions.

The three-tiered response to intervention model is the process that Student Assistance Teams (SATs) in New Mexico must adhere to in order to successfully meet the needs of all students. This three-tiered model of student intervention is required in current state regulations at NMAC 6.31.2.10 (C)(1)-(3). The language that is provided in a ~~strike through~~ font below is in current rule, but is in the process of being amended. It does not convey the NMPED's position that disability is not suspected until the student is referred for a comprehensive evaluation and therefore will be changed to reflect this position:

C. The three-tiered model of student intervention

(1) If general screening, a referral from a parent, a school staff member or other information available to a public agency ~~suggests that a particular student may be a child with a disability~~, a properly constituted student assistance team (SAT) in the agency shall:

(a) ensure that adequate screening in the areas of general health and well-being, language proficiency status, and academic levels of proficiency has been completed, in addition to addressing culture and acculturation, socioeconomic status, possible lack of instruction, and teaching and learning styles in order to rule out other possible causes of the child's educational difficulties; and

(b) conduct the SAT child study process and consider, implement and document the effectiveness of appropriate interventions through curriculum-based measures;

(c) if, however, a student has an obvious disability or a serious and urgent problem, the SAT shall address the student's needs promptly on an individualized basis.

(2) If curriculum-based progress monitoring demonstrates that the student's response to intervention has not been positive and significant after no more than 18 weeks, the SAT may refer the child for a full special education evaluation, or it may resume the child study process to implement additional tier two interventions.

(3) If curriculum-based progress monitoring demonstrates that the student's response to intervention has been positive and significant after no more than 18 weeks, the SAT may continue to require the implementation of those interventions until the student no longer requires the interventions.

As mentioned in Appendix A, districts must implement the dual discrepancy model by July 1, 2007 for students in grades pre-K through 3. In addition, districts that have the foundational concepts of RtI embedded in a systematic manner may choose to use the data gathered from the response to intervention process to determine eligibility under the category of specific learning disability (SLD) using the dual discrepancy criterion established in the NM TEAM for other grade levels if they choose. This eligibility determination model is explicitly supported by Federal statute contained in 20 U.S.C 1414 (B)(6)(A) of the Individuals with Disabilities Education Act (IDEA) of 2004, “In determining whether a child has a specific learning disability, a local education agency may use a process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures described in paragraphs (2) and (3).”

Although various definitions for SLD have been promoted since the 1970's, the codified definition of SLD has remained essentially unchanged since 1977, when P.L. 94-142 was implemented.

Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Specific learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

Teams may determine that a child has a specific learning disability if the child does not achieve adequately for the child's age or to meet State-approved grade-level standards in one or more of the following areas, when provided with learning experiences and instruction appropriate for the child's age or State-approved grade-level standards:

- (i) Oral expression
- (ii) Listening comprehension.
- (iii) Written expression.
- (iv) Basic reading skill.
- (v) Reading fluency skills
- (vi) Reading comprehension
- (vii) Mathematics calculation.
- (viii) Mathematics problem solving.

The child does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the areas identified above when using a process based on the child's response to scientific, research-based intervention; or the child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, State-approved grade-level standards, or intellectual development, that is determined by the group to be relevant to the identification of a specific learning disability, using appropriate assessments.

The group must also determine that its findings are not primarily the result of:

- (i) A visual, hearing, or motor disability;
- (ii) Mental retardation;
- (iii) Emotional disturbance;
- (iv) Cultural factors;
- (v) Environmental or economic disadvantage; or
- (vi) Limited English proficiency.

Neither the Federal definition nor the criteria provide guidance on implementing the important exclusionary factors. Further, it is left to states to determine how to measure the severe discrepancy. The methods utilized by states include variations of simple discrepancy formulas in which Predicted Achievement based upon IQ and actual achievement standard scores are compared, regression formulas which remedy measurement problems that exist due to correlations between IQ and achievement, differences in standard scores on academic achievement measures, percentage discrepancy, and professional judgment.

New Mexico's eligibility criteria for the implementation of SLD identification are located in the NM TEAM. The NM TEAM is being updated to reflect changes in Federal regulations that went into effect on October 14, 2006.

Appendix C
Fidelity Measures
Self-Analysis Tools

District Fidelity Self-Assessment

(Pursuant to administrative competencies in NMAC 6.62.2.10)

As a district-level team, complete this self-assessment quarterly to assess and document what essential components are “not yet implemented”, those “in progress”, and those components that are “firmly established and embedded”. These components are critical for effectively implementing school reform, Rtl, and ensure academic success for all students.

District: _____

Date: _____

Quarter: 1 2 3 4

A. Scientific, Research-based Instruction and Intervention	Rating & Comments		
	Not Yet 0	In Progress 1	Embedded 2
District leadership has selected and provided scientific, research-based core curriculum in core content areas			
District leadership has provided professional development for instructional leaders and support staff regarding scientific, research-based instructional strategies			
District leadership has provided training for instructional leaders and support staff in the areas of differentiated and explicit instructional strategies.			
District leadership has provided training for instructional leaders and support staff in the areas of scientific, research-based interventions			

B. Fidelity	Rating & Comments		
	Not Yet 0	In Progress 1	Embedded 2
District leadership advocates for response to intervention and the three-tiered model of student intervention as a comprehensive school improvement model			
District leadership has incorporated response to intervention procedures that are aligned with the district EPSS.			
District has developed an RtI Task Force to address issues of alignment to district goals, re-thinking resources, sharing, collaboration, etc.			

C. Progress Monitoring	Rating/Comments		
	Not Yet 0	In Progress 1	Embedded 2
District leadership has ensured that district-wide short cycle assessment program is implemented in language arts and math at least three times per year in Tier 1			
District leadership has provided resources, including materials, training, and technology, to ensure that Curriculum Based Measures (CBM) are incorporated into classroom progress monitoring procedures at Tier 2			
District leadership has provided professional development, based upon the NMPED's <i>Student</i>			

<i>Assistance Team and the Three-Tiered Model of Student Intervention</i> , for all school student assistance teams district-wide.			
District leadership has ensured that school leaders have the tools they need to effectively collect, analyze, and publish progress monitoring data from short-cycle assessments and CBMs.			
District leadership has provided professional development opportunities and resources regarding remediation and intervention strategies for instructional leaders and support staff.			

School Fidelity Self-Assessment

(Pursuant to administrative competencies in *NMAC* 6.62.2.10)

As a school-level team, complete this self-assessment quarterly to assess and document what essential components are “not yet implemented”, those “in progress”, and those components that are “firmly established and embedded”. These components are critical for effectively implementing school reform, Rtl, and ensure academic success for all students.

School: _____

Date: _____

Quarter: 1 2 3 4

A. Scientific, Research-based Instruction and Intervention	Rating & Comments		
	Not Yet 0	In Progress 1	Embedded 2
Administrator has ensured that evidence-based core curriculum in content areas is provided			
Administrator has provided resources and professional development necessary for teachers to implement evidence based instructional strategies			
Administrator has ensured that implementation fidelity is addressed			
Administrator has provided teachers with resources and professional development to ensure that all students are instructed at their respective levels			

B. Fidelity	Rating & Comments		
	Not Yet 0	In Progress 1	Embedded 2
Administrator has attended professional development trainings regarding the appropriate implementation of the core curriculum/ curricula			
Administrator ensures that critical components of core curriculum are implemented, as defined by the publisher's implementation design			
Administrator ensures that evidence-based instruction and interventions are implemented in Tier 1 and Tier 2			
Administrator has attended professional development trainings regarding evidence based interventions			
Administrator ensures that a functional SAT process is in place.			
Administrator uses a variety of classroom observation methods and tools on a frequent basis (e.g., 5 Minute Walk-Through)			

C. Progress Monitoring	Rating & Comments		
	Not Yet 0	In Progress 1	Embedded 2
School participates in district-wide short cycle assessment program at least three times per year in Tier 1			
Administrator has provided training for staff related to the use of Curriculum Based			

Measures (CBM) as classroom progress monitoring procedures at Tier 2 to determine efficacy of student intervention			
Administrator uses school-wide progress monitoring information gathered from short cycle and CBM assessments to make appropriate resource allocation decisions			
Administrator continuously monitors and analyzes school-wide student achievement and behavior data			
Administrator uses the SAT as a vehicle to provide support for teachers and students at Tier 2.			
Administrator ensures that parents are informed, in an understandable manner, regarding their child's performance on measures of academic achievement and behavior.			
Administrator disseminates school-wide progress monitoring data and charts/graphs to all stakeholders			
Administrator participates in professional development opportunities and collaborates with staff regarding school improvement.			

Classroom Fidelity Self Assessment

(Pursuant to teacher competencies located in *NMAC* 6.61.2.10, 6.61.3.10, and 6.61.4.10)

As a grade-level team or individual teacher, complete this self-assessment quarterly to assess and document what essential components are “not yet implemented”, those “in progress”, and those components that are “firmly established and embedded”. These components are critical for effectively implementing school reform, Rtl, and ensure academic success for all students.

Teacher(s): _____

Date: _____ Quarter: 1 2 3 4 School: _____

A. Scientific, Research-based Instruction and Intervention	Rating & Comments		
	Not Yet 0	In Progress 1	Embedded 2
Teacher implements scientific, research- based core curriculum in core content areas taught			
Teacher implements scientific, research-based instructional strategies			
Teacher implements scientific, research-based intervention strategies			
Teacher guides self-assessment by students, based upon progress monitoring data, and assists them in devising personal plans for reaching desired performance level(s)			
Teacher ensures that all students are instructed at their respective instructional levels using a variety of instructional methods.			

B. Fidelity	Rating		
	Not Yet 0	In Progress 1	Embedded 2
Teacher implements core curriculum, as defined by the publisher's implementation design			
Teacher has attended professional development trainings regarding the appropriate implementation of the core curriculum/curricula			
Teacher has attended professional development trainings regarding scientific, research-based interventions			
Teacher implements evidence based interventions in Tier 1 and Tier 2			
Teacher works collaboratively with the school's SAT at Tier 2 to implement student intervention plans, when necessary.			

C. Progress Monitoring	Rating & Comments		
	Not Yet 0	In Progress 1	Embedded 2
Teacher participates in district-wide short cycle assessment program at least three times per year in Tier 1			
Teacher has incorporated Curriculum Based Measures (CBM) into classroom progress monitoring procedures at Tier 2 to determine efficacy of student intervention			
Teacher uses progress monitoring information gathered from short cycle and CBM assessments to			

make appropriate instructional adaptations			
Teacher continuously monitors student achievement and behavior with appropriate nonstandard measures (everyday assignments, assessments, and observations)			
Teacher understands the role of the SAT in his/her school and uses the SAT appropriately to provide support at Tier 2.			
Teacher informs parents in an understandable manner regarding student performance regarding both informal and formal measures of academic achievement and behavior, including classroom assessment data, short-cycle assessment data, and NMSBA and CBM data (if appropriate).			
Teacher disseminates progress monitoring data and charts/graphs to the building administrator			
Teacher disseminates progress monitoring data, including charts/graphs with classroom performance, to the SAT or IEP team.			
Teacher participates in professional development opportunities regarding progress monitoring and CBM.			

Appendix D
Scientifically-Based Instruction and Intervention Checklist
Steps to Conducting Scientifically-Based Research

Scientific-Based Instruction and Intervention Checklist

How do we determine if our instruction and intervention are scientific and research-based? Districts can use the following *Scientific, Research-based Instruction and Intervention Checklist* to evaluate research evidence. This evidence might be the information that is provided by a publisher or program developer. Or, it might be an article about an educational practice. The more questions that can be answered with “yes,” the more likely it is that the evidence is scientifically based. There are six components in this evaluation: relevance, rigor, systematic approach, objectivity, replicability, and data analyses/interpretation.

Relevance

- *Does the evidence provided by the researchers or developers address a question that is important to your needs?* For example, if you have disaggregated your student achievement data and it is clear that many fifth-grade students in Title I schools are performing poorly in algebraic concepts, does the evidence provided demonstrate that the product or program under consideration can improve the performance of such students?
- *Do the developers provide evidence that the research they claim supports their product or program links to and flows from relevant theory and theory-based research?* While you may not have the time or inclination to validate this kind of “linkage,” developers should provide evidence that they have documented such linkage. One way they may do this is by conducting a review of existing scientific research related to their product/program. They may also provide a “white paper” that shows the relationship between the literature review and their product/program.
- *Do the research procedures, analyses, and findings support the researchers’/developers’ claims?* This can be determined by reviewing the research evidence provided by the developers, checking the US Department of Education’s What Works Clearinghouse Web site (www.w-w-c.org), and/or seeking the assistance of research professionals. In some cases, school districts may employ a research staff; in other cases, they may need to draw on a research firm or university experts.

Rigor

- *If the researchers or developers claim a causal relationship between the intervention (product, service, program) and an outcome measure such as student achievement, did they include a control or comparison group in the study, in addition to the experimental group?*
- *Were the study participants (usually students or teachers or schools) randomly selected and/or randomly assigned to experimental versus control/comparison groups?*
- *Is sufficient information provided to determine whether the research design, instruments, and procedures are appropriate for answering the research questions posed by the researchers/developers?* For example, if the researchers/developers claim that a particular program improves students’ engagement in learning, did they adequately define engagement? Did they provide information about the reliability and validity of the instruments or processes used to measure student engagement? If the researchers/developers claim that a program is effective, did they conduct an experiment or quasi-experiment? Or, did they conduct a survey only? Surveys by themselves do not prove anything. They provide information about what the respondents think or perceive or report.

- *Were the research instruments and procedures applied with consistency, accuracy, and for the purpose intended by the developers of the instruments and procedures?* Researchers should provide enough information for the reader/reviewer to make this judgment. If they do not, then evidence is lacking. Just as research designs should match the purpose of the research study, the instruments used in a research study should be used as they were intended. For example, norm-referenced achievement tests were not originally designed to show how well students measure up against state achievement standards. So, if developers/researchers want to claim that a particular program improves students' performance on the state's standards, then an instrument that was specifically designed to measure achievement of those standards should be used.

Systematic Approach

- *Was the research conducted using carefully planned, logical steps?* Were the steps such that following them logically could lead to answering the research question(s)?

Objectivity

- *Did someone other than the publisher or developer conducted the research attesting to the products or programs effectiveness?* If not, was the research conducted by the publisher/developer submitted to review by an independent, expert panel?

Replicability

- *With the information provided, could the same researchers likely repeat the study and obtain the same or highly similar results?*
- *With the information provided, could other researchers likely replicate the study's methodology and obtain the same or highly similar results?*

Data Analyses and Interpretation

- *Does the research evidence provided include data or data summaries?*
- *Are significance levels and effect sizes reported?* In education, statistically significant findings are generally .05 or less. A significance level indicates the probability that a particular finding is due to chance rather than to the experimental intervention, for example: If the difference between test scores for the experimental group and the control group is statistically significant at the .05 level, it means there is a five percent probability or "chance" that the findings are erroneous. More important than statistical significance alone, however, are effect sizes. Effect sizes are reported in terms of standard deviation units and tell us something about the practical significance of research findings, i.e. effect sizes are indicators of the size or magnitude of the statistically significant difference between the experimental treatment and control groups. Effect sizes of 1.0 or greater are generally considered large. Effect sizes of .50 are considered "medium", and effect sizes of .25 are considered small, i.e. of little practical significance.
- *Are the conclusions drawn by the researchers/developers clearly supported by the data?* If no data or data summaries, significance levels, or effect sizes are provided, it will be difficult, if not impossible, to answer this question.

Districts may also wish to revisit the language contained in the No Child Left Behind Act (NCLB) with regard to a definition of the phrase scientific, research-based. This definition can also be found in the *Glossary*.

Steps to Conducting Scientifically-Based Research

Steps to Conducting Scientifically Based Research: In some cases, school districts may be interested in developing an educational program of their own. If the program is dependent on a funding source that requires scientifically based research (SBR), then districts will need to follow certain steps. The following list describes the steps to conducting SBR aimed at demonstrating cause-and-effect relationships. The emphasis is on causation because it is the primary and immediate concern of the schools, districts, and states striving to comply with NCLB requirements.

- 1 *Formulate a hypothesis* about the effect of the independence or “causal” variable (such as a particular instructional strategy) on the dependent or outcome variable (such as student achievement). This hypothesis should be based on the best available information (e.g., sound theory, prior rigorous research, and/or empirical observation). A sample hypothesis might be: When third-grade students are exposed to 100 hours of XYZ software for increasing reading comprehension, their scores on a test of reading comprehension will increase.
- 2 *Randomly select a sample* of participants for the study, if possible. In other words, select participants by using a table of random numbers or by drawing their names “out of a hat,” instead of allowing them to volunteer. Also, if possible, randomly assign individual members from the sample to either the experimental or the control/comparison group(s). NCLB places particular emphasis on random assignment. If random selection and/or assignment are possible, you will have the makings of an experimental study. If not, then you will be conducting a quasi-experiment. Either way, you must have both an experimental group and a control or comparison group.
- 3 *Administer a pretest* to both the experimental and control/comparison groups if you are interested in measuring change over time. This is especially important if you are unable to randomly assign participants to groups. Be sure the pretest is reliable and validity of commercially available instruments or in reference books such as *Buros Mental Measurements Yearbook* (Plake & Impara, 2001) or *Tests in Print* (Murphy et al., 2002). If you are developing your own instruments, someone with expertise and experience in instrument development will need to conduct studies to establish the reliability and validity of these instruments.
- 4 *Apply the treatment intervention* to the experimental group, being careful to plan and document the nature, specific elements, length, intensity, and context of the treatment. This will allow for replication.
- 5 *Re-measure* (i.e., “posttest”) both the experimental and control/comparison groups, using the pretest measure or a measure that has been demonstrated statistically to be equivalent to the pretest measure. It is important to know or document the reliability of the measures. If the same measure is used for pre- and post-testing, then “test-retest reliability” is important. If different measures are used, then “parallel” or “alternate forms” reliability” is important. In either case, if the appropriate type of reliability is not reported by the test publisher and you do not have a research staff, researchers experienced in instrument development can help you establish the appropriate reliabilities.

- 6 *Analyze the results* of the measurements of the experimental and control/comparison groups on the pre- and posttest measures. A statistics specialist can help you determine the most appropriate types of statistical analyses and tests to conduct. Ultimately, significance levels and effect sizes should be calculated. Effect sizes indicate the practical significance of statistical findings. Large effect sizes tend to be 1.0 or greater. Effect sizes of .50 or so are considered medium, and effect sizes of .25 or less are generally considered small.
- 7 *Write a report* of the findings that includes a description of (1) the rationale for the study; (2) findings from prior research that contributed to the study's underlying hypothesis; (3) the research procedures and instruments that were used, including information about their reliability and validity; (4) demographic information about the participants in the study, as well as information about how they were selected and how they were assigned to groups; (5) how the results were analyzed; (6) the results of the analyses, including effect sizes, and (7) conclusions that can be supported by the data yielded by the study.

(Source: Appalachia Educational Laboratory, Scientifically Based Research: A Planning Tool for Educators)

Appendix E

Glossary of Terms

Glossary

Intervention - any change to increase the intensity of instruction using the levels of intensity matrix. Changes can be made in the areas of Program, Time, or Grouping.

Accommodation - any change made to instruction and/or assessment that does not change the expectations for performance or change the construct that is being measured respectively. Accommodations provide access to buildings, curriculum, and assessments.

Scientific, Research-based - the term defined by NCLB is “scientifically based research.” You may also see some literature refer to this notion as “evidence based.” We will use the NCLB definition for all of these terms:

Section 9101(37) The term ‘scientifically based research’-

(A) means research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs; and

(B) includes research that-

(i) employs systematic, empirical methods that draw on observation or experiment;

(ii) involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn;

(iii) relies on measurements or observational methods that provide reliable and valid data across evaluators and observers, across multiple measurements and observations, and across studies by the same or different investigators;

(iv) is evaluated using experimental or quasi-experimental designs in which individuals, entities, programs, or activities are assigned to different conditions and with appropriate controls to evaluate the effects of the condition of interest, with a preference for random-assignment experiments, or other designs to the extent that those designs contain within-condition or across-condition controls;

(v) ensures that experimental studies are presented in sufficient detail and clarity to allow for replication, or at a minimum, offer the opportunity to build systematically on their findings; and

(vi) has been approved by a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific review.

(NCLB Section 9101(37), 20 USC 7707 (b)(37))

(P.L.107-110, The No Child Left Behind Act of 2001 (2002, Jan. 8), 115 Stat. 1425)

Fidelity - refers to the intensity and accuracy with which instruction and intervention is implemented. Research studies follow an implementation protocol to ensure standardization. Teachers must follow this research design, as elaborated in the teacher’s guide available from publishers, in order to attend to fidelity.

Curriculum Based Measures (CBMs) - curriculum based measures are direct assessments of student skills administered in standardized manner that are aligned to state content standards and benchmarks. They are typically discrete probes, which are brief, timed samples. CBMs can measure both fluency and accuracy of student responses. They can be teacher-developed, purchased, or found online, though reliability and validity of the CBMs must be attended to if developing CBMs independently. They can be administered quickly and frequently. Student level results are typically graphed and compared to classroom peers to determine the student’s level of progress.

Core Curriculum - is a course of study, which is deemed critical and usually made mandatory for all students of a school or school system. Core curricula are often instituted, at the primary and secondary levels, by school boards, Departments of Education, or other administrative agencies charged with overseeing education. Core curricula must be scientific and research-based.

Content Area - Academic areas of study for which the New Mexico Public Education Department has developed content standards and benchmarks.

Formative Assessment - is a form of assessment intended to give students immediate feedback on their learning progress and to provide teachers with data regarding both what skills students have mastered and what skills are their areas of difficulty. Formative assessment is a system of classroom level assessments that may be teacher developed, such as unit tests and CBMs. Formative assessment is not used to assign marks or grades toward determining whether the student gains credit. It is used exclusively to drive appropriate instructional changes to meet individual student needs.

Core academic subjects - means English, language arts, reading, mathematics, science, the arts, including music and visual arts, social studies, which includes civics, government, economics, history, and geography, and modern and classical languages, except the modern and classical Native American languages and cultures of New Mexico tribes or pueblos. [NMAC]

Appendix F
RtI Fidelity Checklist

Rtl Fidelity Checklist

Student: _____ **Teacher:** _____
Grade: _____ **Age:** _____ **School:** _____

Features of Response to Intervention have been implemented with fidelity for the student. Note: all areas need to be in place prior to making a referral for special education evaluation.

Tier I

☐ Yes ☐ No **Evidence-based general education curriculum and methodologies.** The student is placed in a general education classroom where a highly qualified teacher is using evidence-based curricula and strategies.

If yes, provide rationale and documentation:

If no, describe action step:

☐ Yes ☐ No **Fidelity of instruction.** The curricula, including extensions, was implemented with fidelity for this student.

If yes, provide rationale and documentation:

If no, describe action step:

☐ Yes ☐ No **Differentiation of Instruction.** Specific instructional adjustments and/or extensions were consistently implemented to meet the student's needs.

If yes, provide rationale and documentation:

If no, describe action step:

☐ Yes ☐ No (Required fields) **Short-Cycle Assessment Data.** Short-cycle assessment data of the student's performance in academic content areas are collected at least three times a year and compared to grade level peers in the district. The student scores in the lowest 25% of his/her peer group based on this data.

If yes, provide rationale and documentation:

If no, describe action step:

Tier II

☐ Yes ☐ No **Evidence-based Interventions.** The student has received evidence-based small-group instruction for at least 4 weeks.

If yes, provide rationale and documentation:

If no, describe action step:

☐ Yes ☐ No **Fidelity of intervention.** The intervention(s) was (were) implemented with fidelity for this student (including core curriculum, extensions, supplemental curriculum, and strategies).

If yes, provide rationale and documentation:

If no, describe action step:

☐ Yes ☐ No **Progress Monitoring Data.** The student's progress was monitored with short-cycle assessment data, which was reported to parents. Short-cycle assessment data was compared to peers and the student's scores either meet the dual discrepancy or are in the lowest 10 - 15% of his/her grade level peer group. Weekly curriculum-based measures (CBMs) were implemented for at least 4 weeks. Data from CBMs are consistent with the area(s) of concern established by the short-cycle assessment data.

If yes, provide rationale and documentation:

If no, describe action step:

☐ Yes ☐ No **Data-Based Decision Making.** The student's individualized or small-group interventions were reviewed, revised, and/or discontinued based on student performance and progress after 4 week intervals.

If yes, provide rationale and documentation:

If no, describe action step:

Administrator's Signature: _____

Date: _____

Appendix G
References and Written Resources
Online Resources

References and Written Resources

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Online Resources

Council for Exceptional Children www.cec.sped.org

Dynamic Indicators of Basic Early Literacy Skills - DIBELS <http://DIBELS.uoregon.edu>

Florida Center for Reading Research: <http://www.fcrr.org>

New Mexico Reading First: K-5 Instructional Materials for Reading Adoption Rubric
Teacher's Guide, Assessments, Student Texts & Supplementary Materials
http://www.nmlites.org/downloads/reading/k-5_instruc_read_rubric.doc

Institute for the Development of Educational Achievement: Big Ideas in beginning
Reading <https://reading.uoregon.edu>

Intervention Central www.interventioncentral.org

National Association of State Directors of Special Education <http://www.nasdse.org>

National Center on Student Progress Monitoring www.studentprogress.org

National Research Center on Learning Disabilities <http://www.nrcld.org>

New Mexico Public Education Department www.ped.state.nm.us

Oregon Reading First Center <http://oregonreadingfirst.uoregon.edu>

Oregon's Response to Intervention Initiative (Tigard/Tualatin School District)
<http://www.ode.state.or.us/initiatives/idea/rti.aspx>

Office of Special Education and Rehabilitative Services – Ideas that Work
<http://www.ed.gov/about/offices/list/osers/osep/index.html>

Positive Behavioral Interventions and Supports www.pbis.org

Reading Rockets <http://www.readingrockets.org>

University of Minnesota Department of Educational Psychology (Curriculum-Based
Measures and Progress Monitoring Information)
<http://education.umn.edu/EdPsych/SpecialEd/CBMConference/handouts.html>

What Works Clearinghouse (Content based programs that have been reviewed by the
US DoE) www.w-w-c.org